

Prior Art
Figure 1

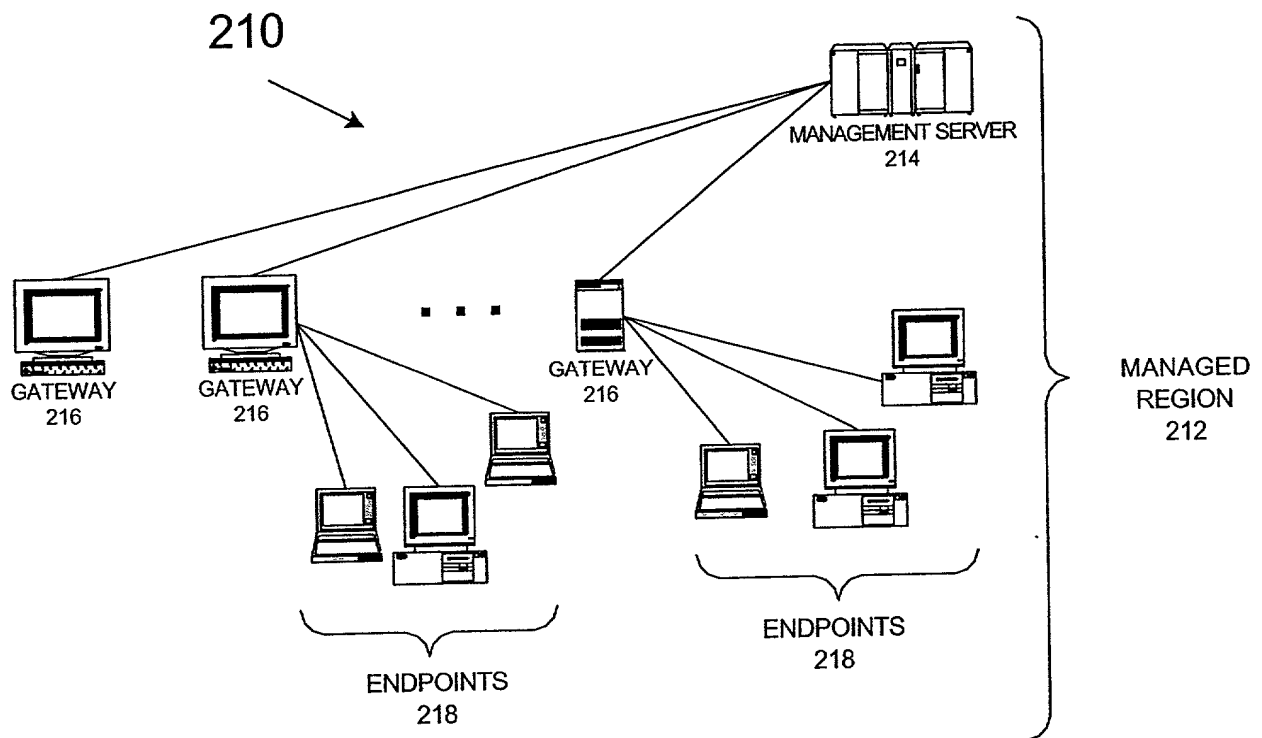


Figure 2A

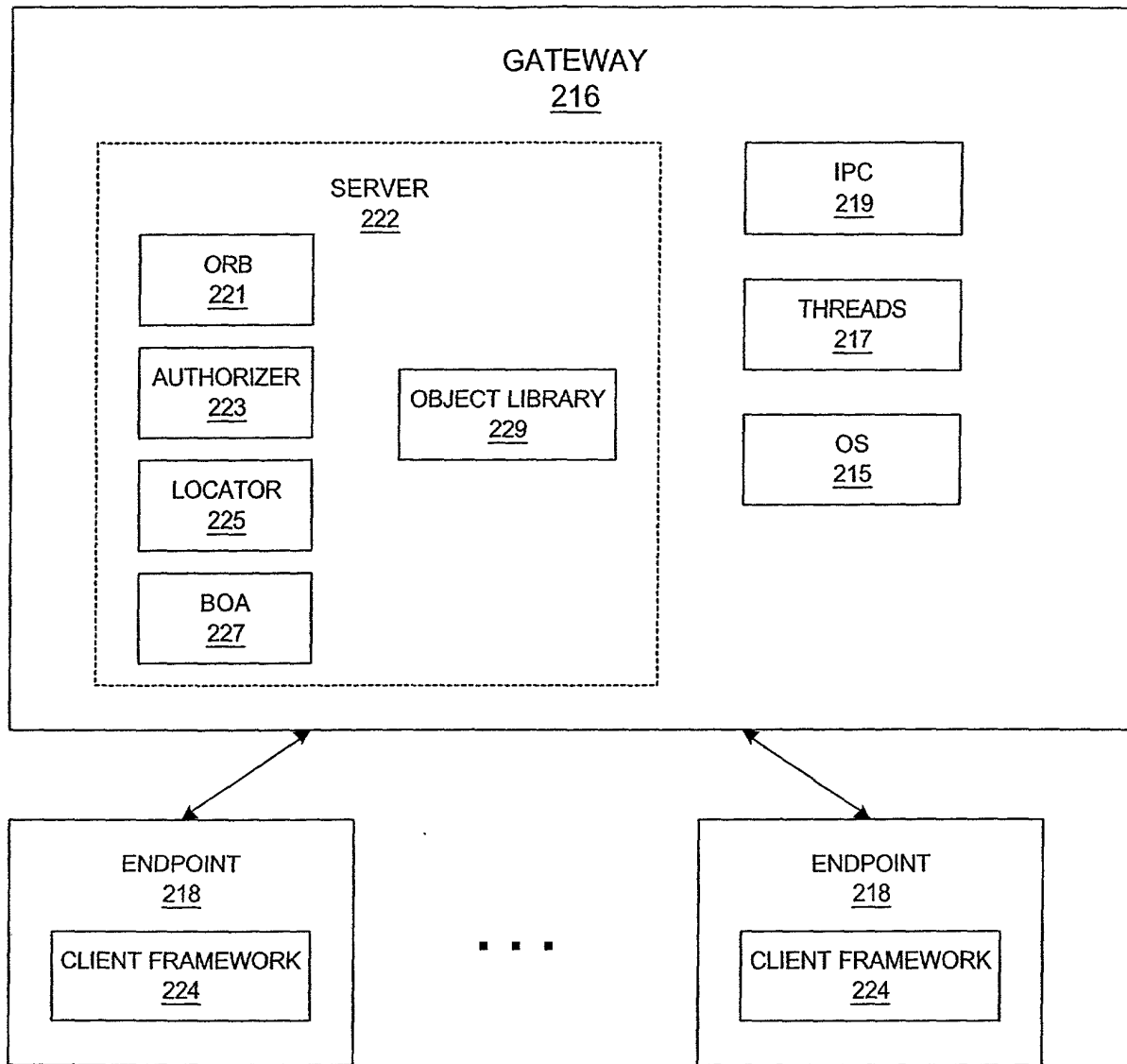


Figure 2B

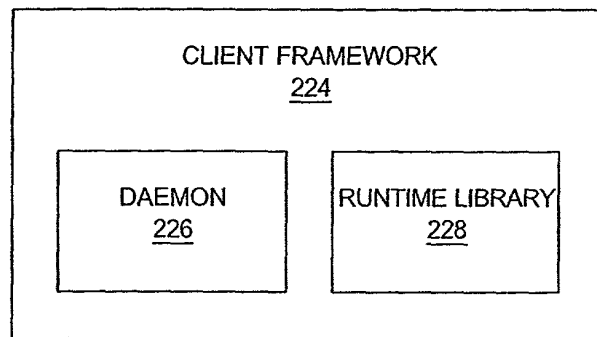


Figure 2C

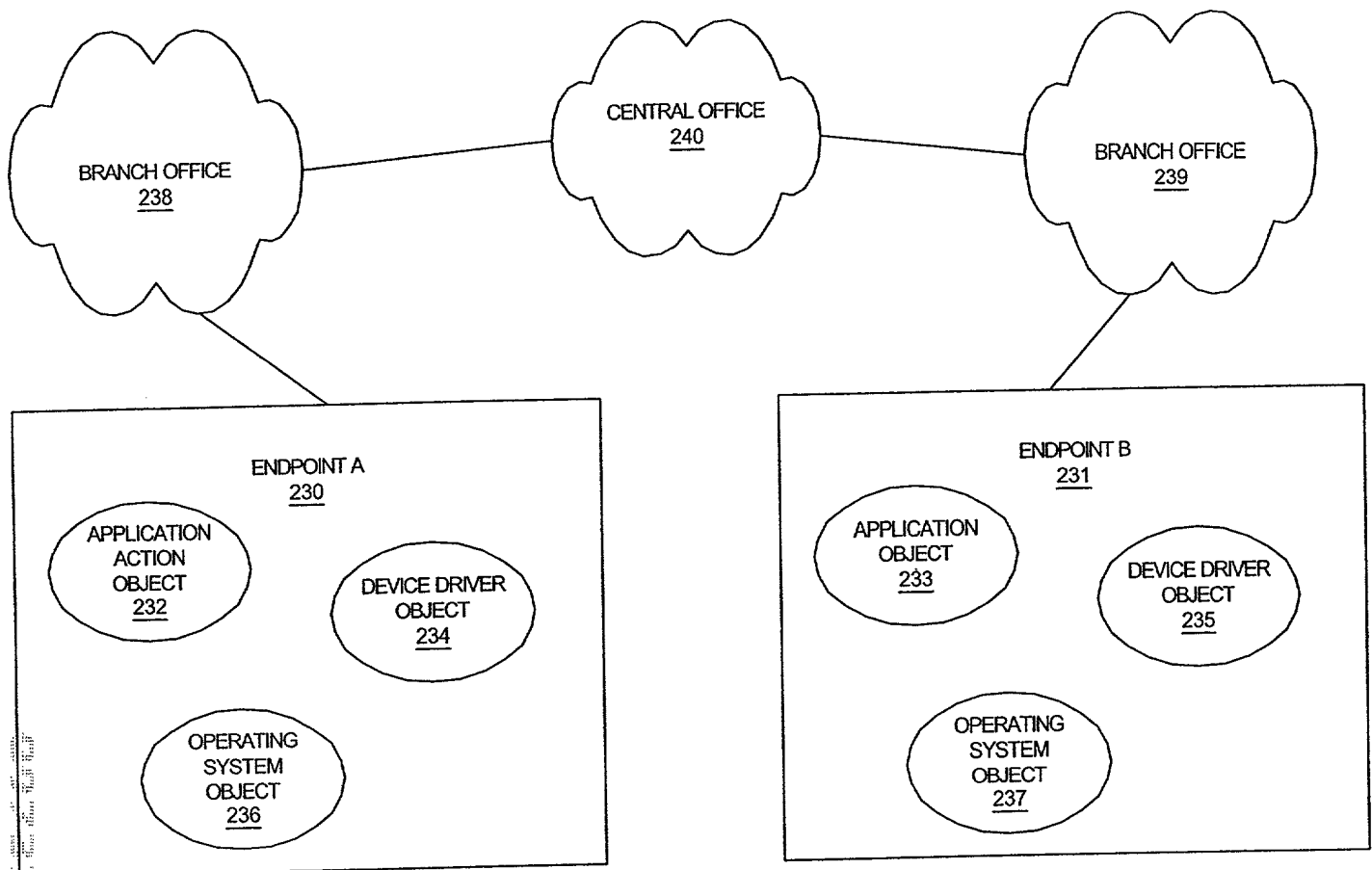


Figure 2D

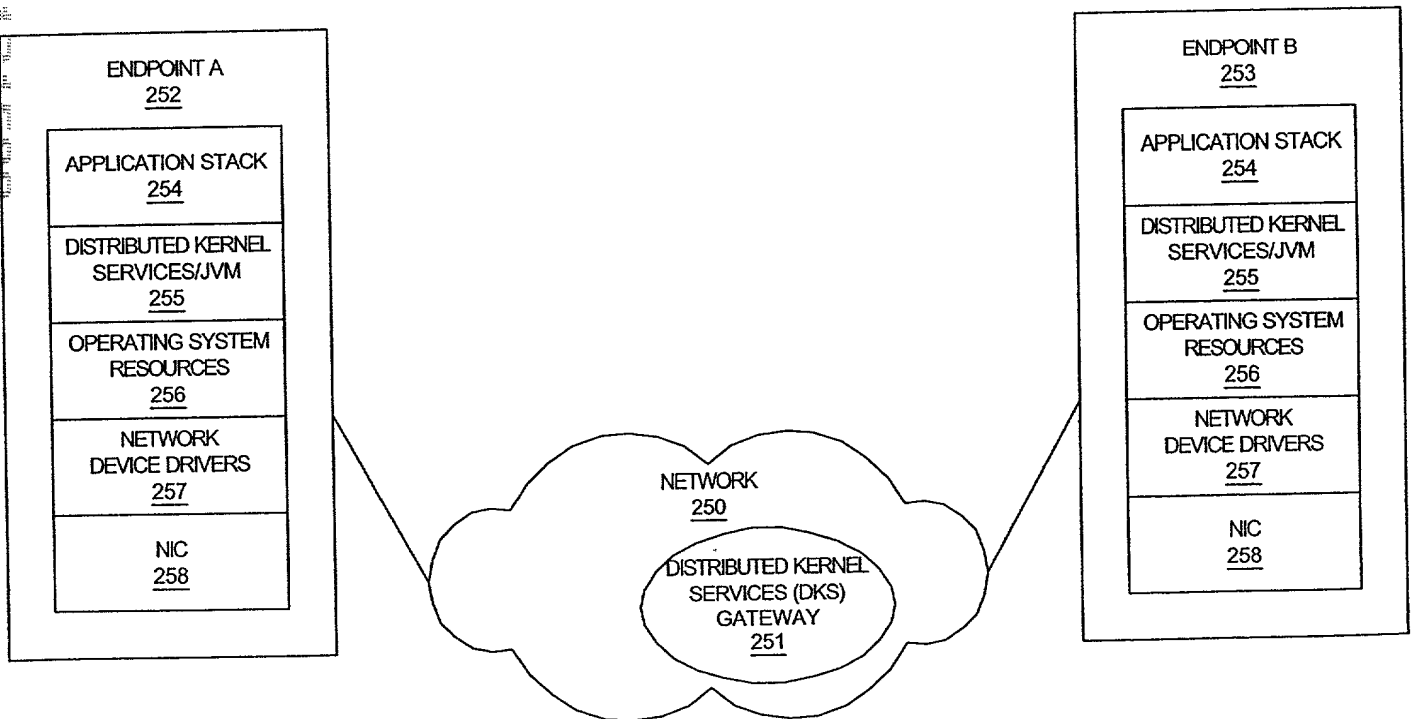


Figure 2E

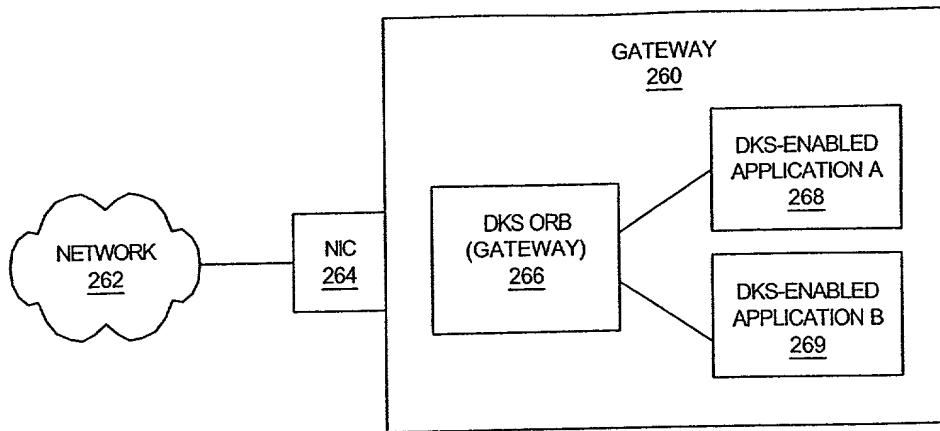


Figure 2F

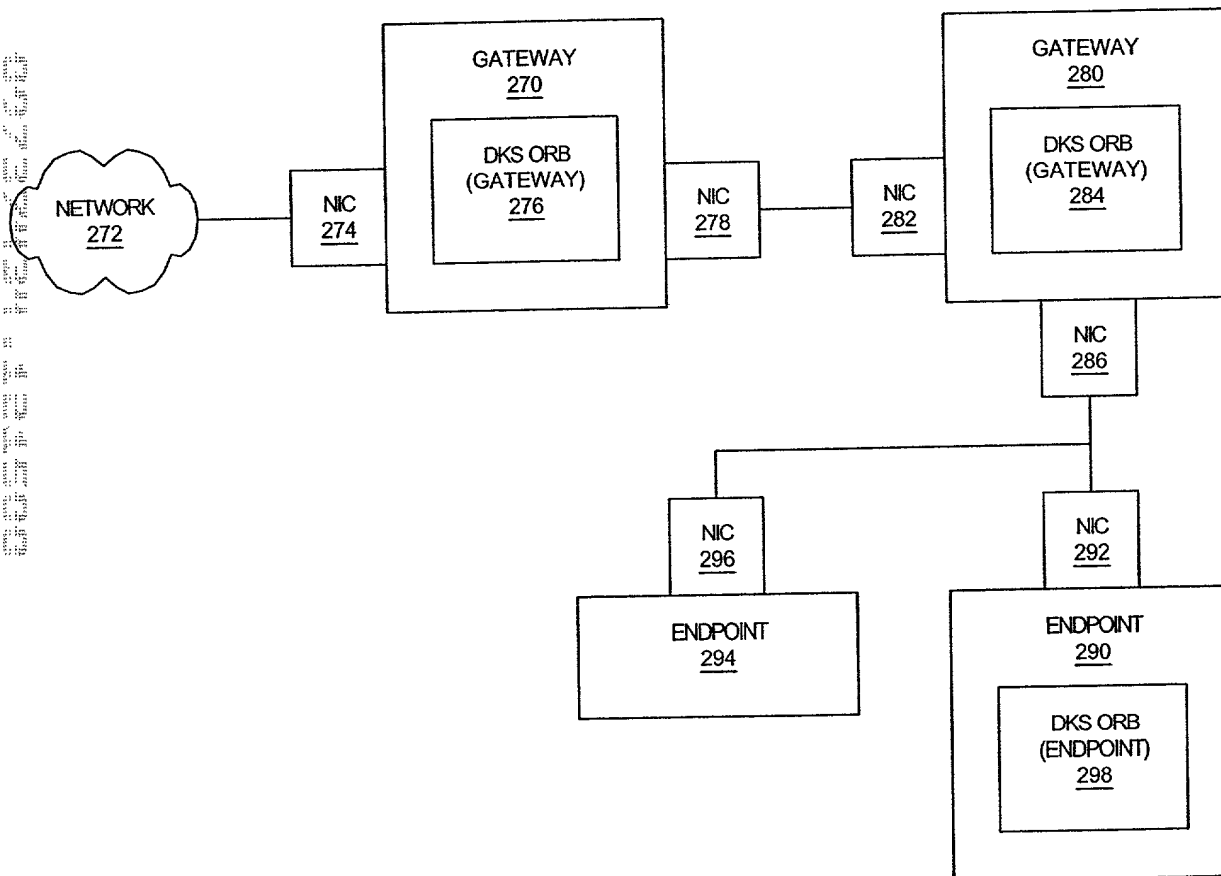


Figure 2G

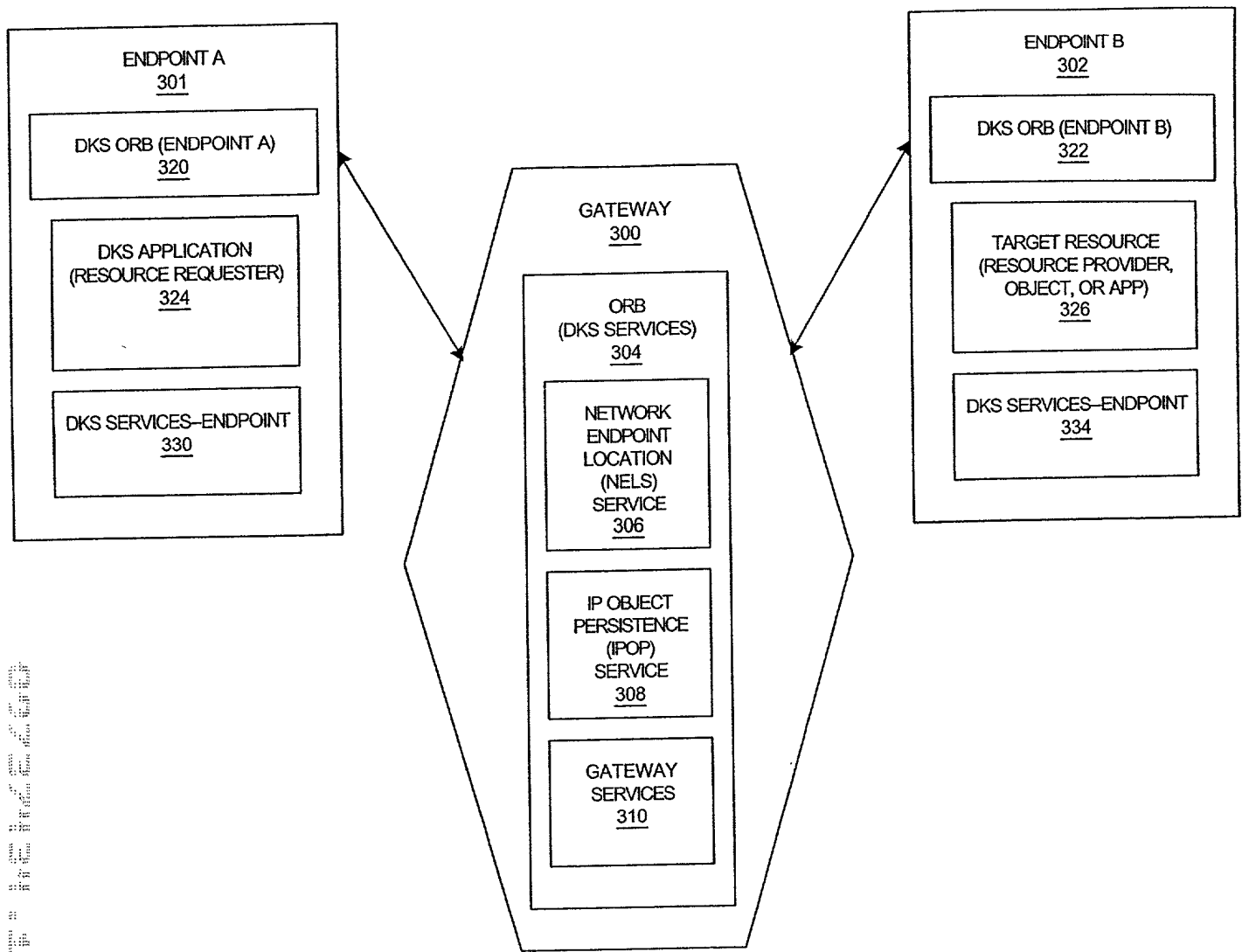


Figure 3

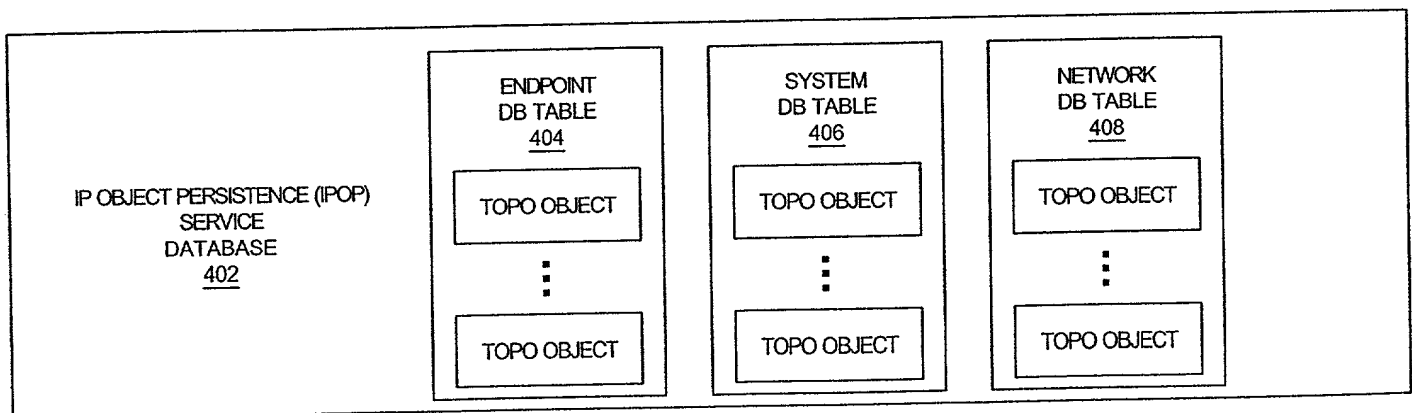


Figure 4

500

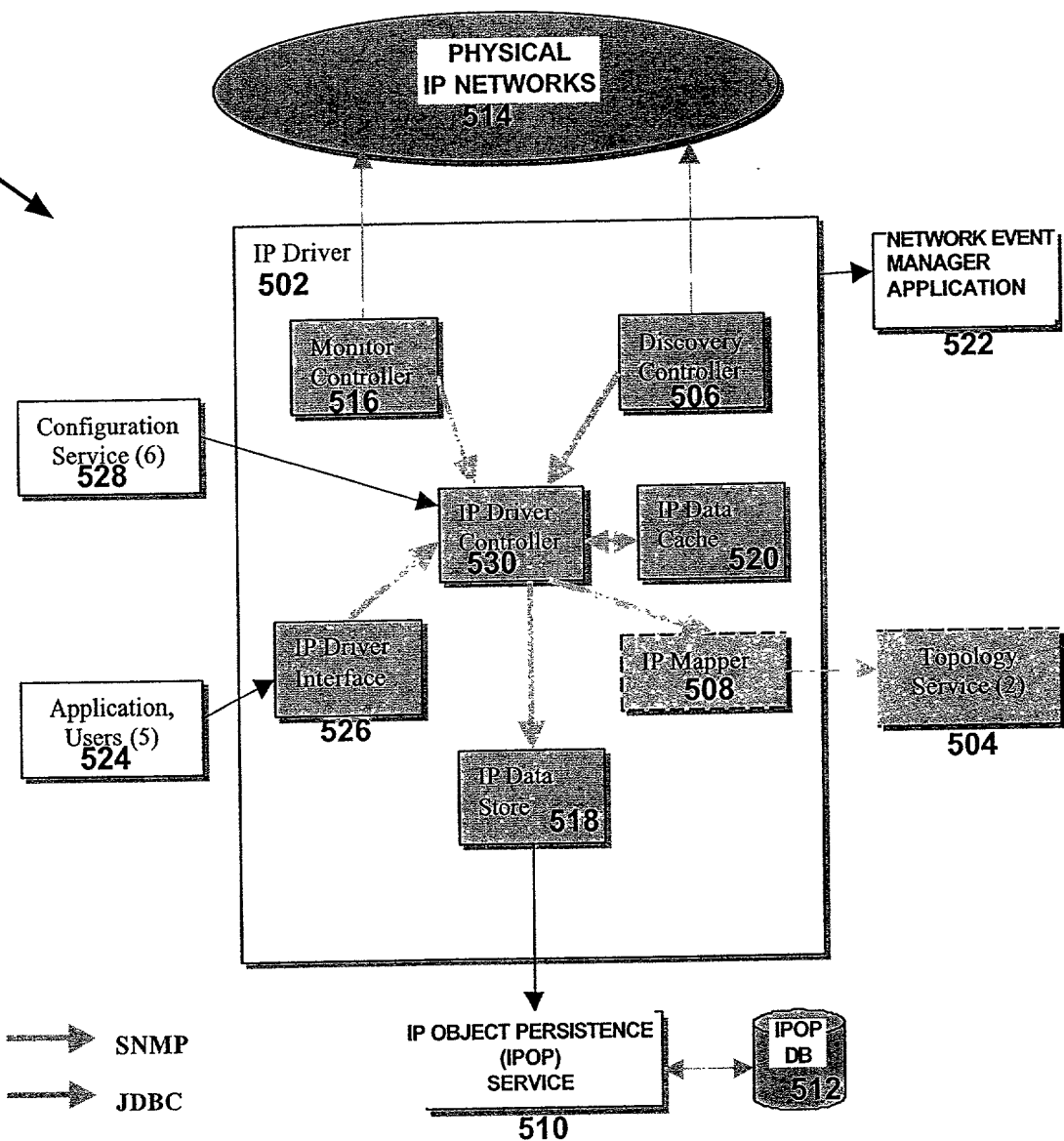


Figure 5A

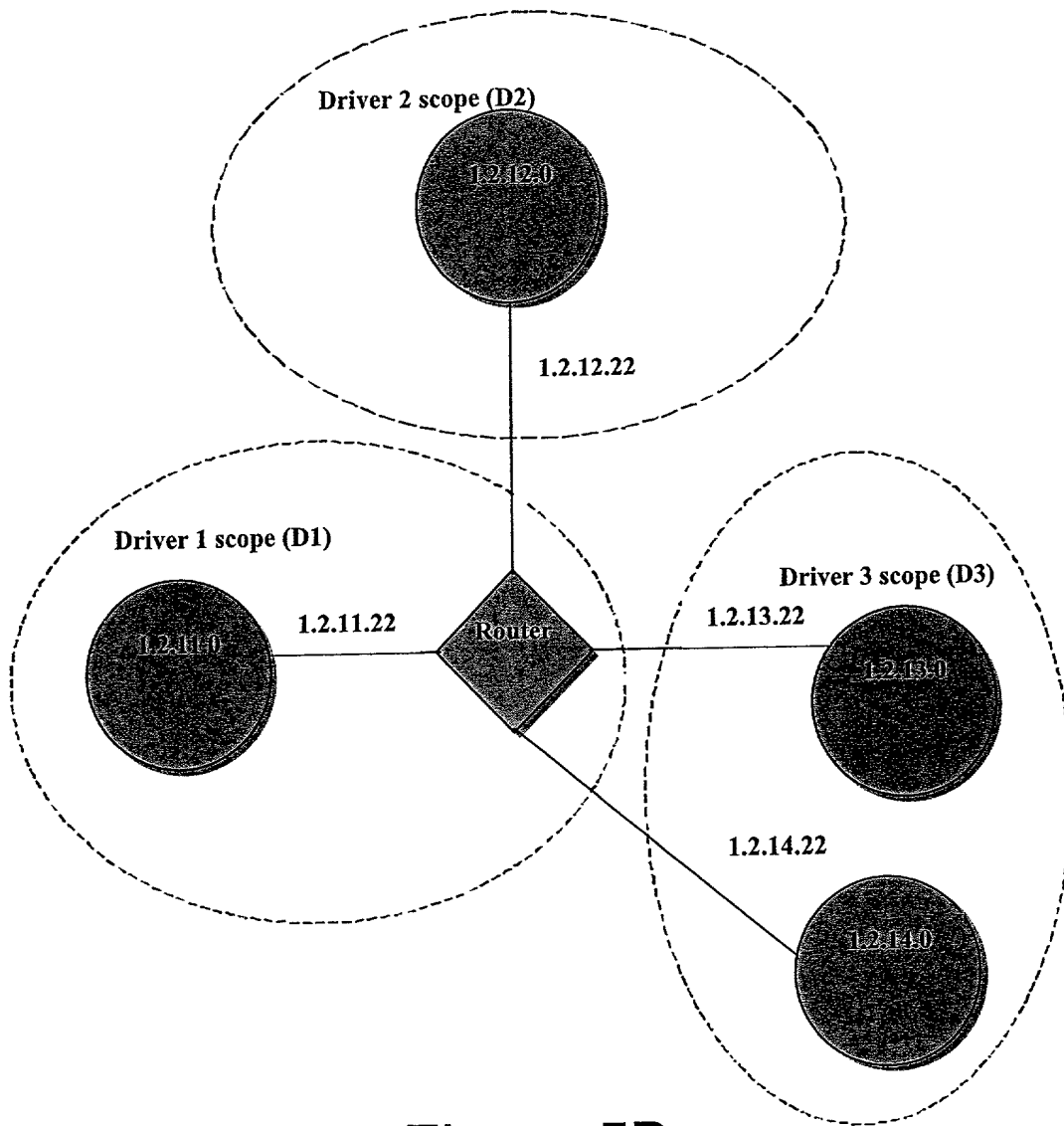


Figure 5B

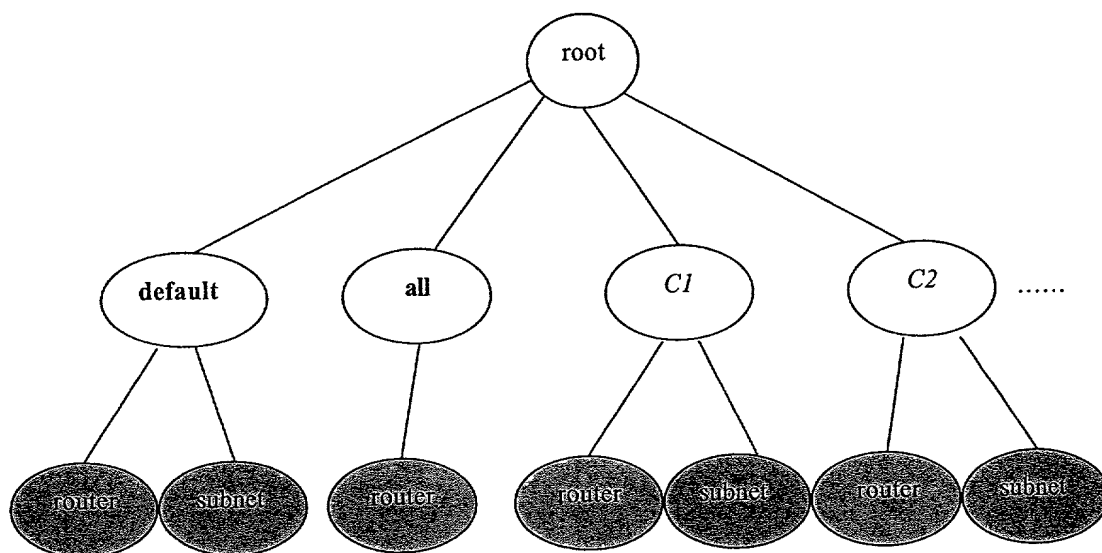


Figure 5C

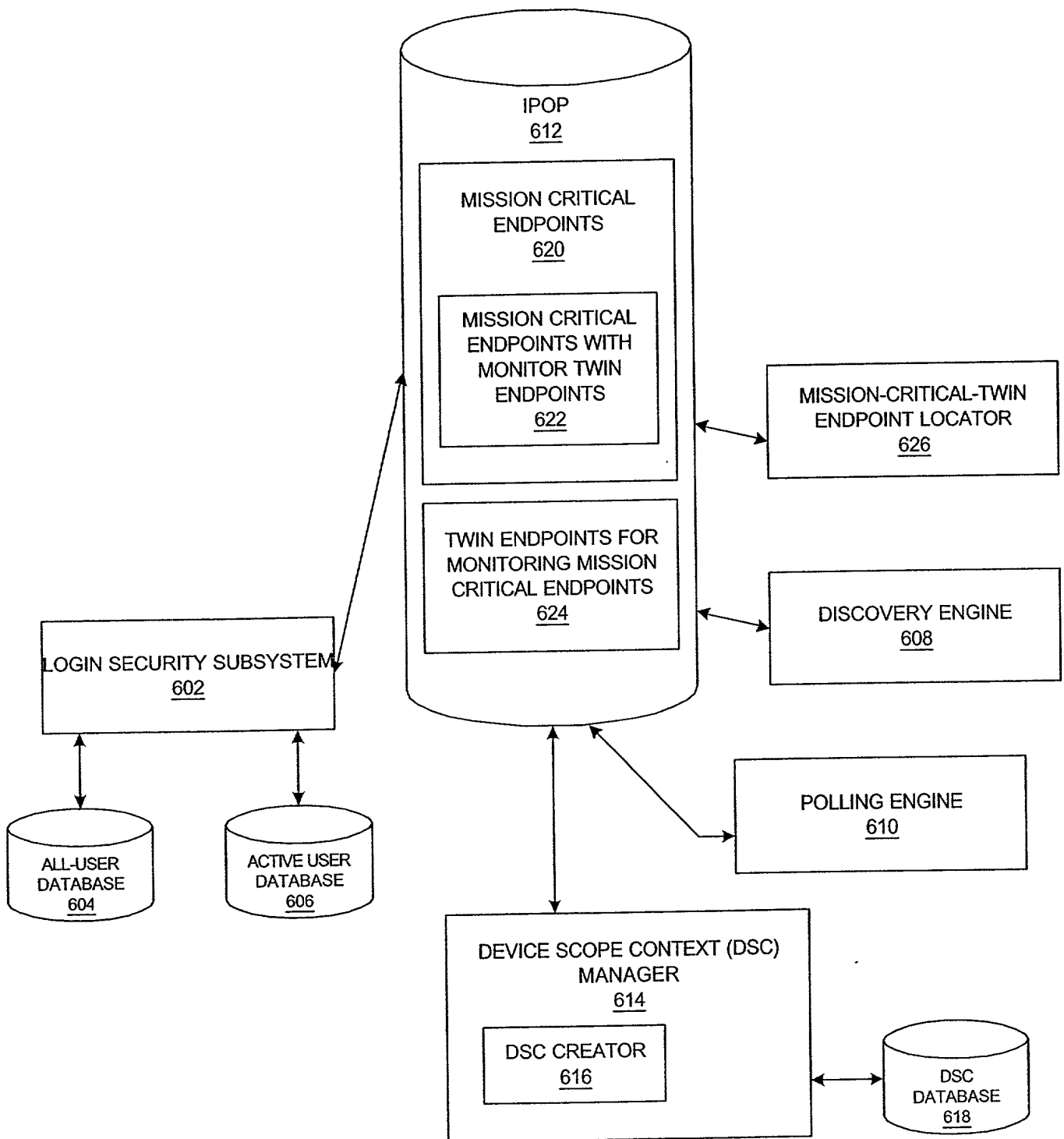


Figure 6

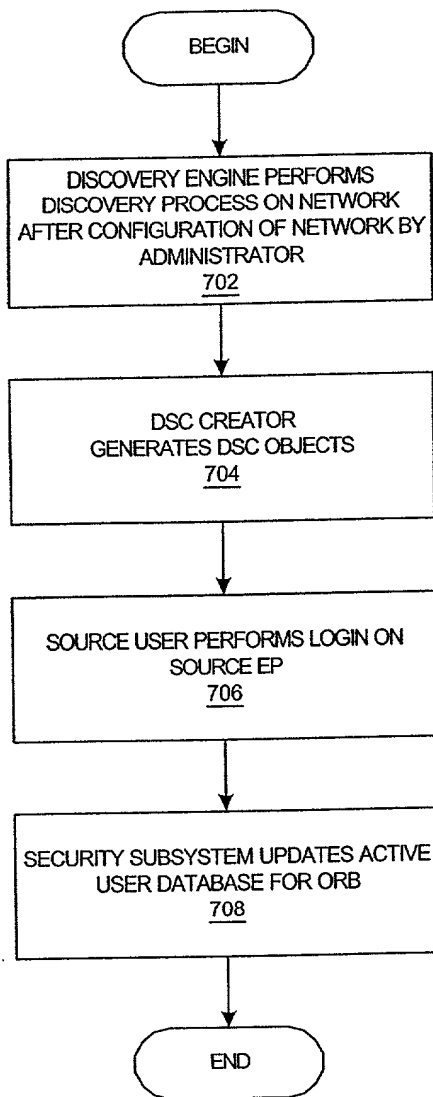


Figure 7A

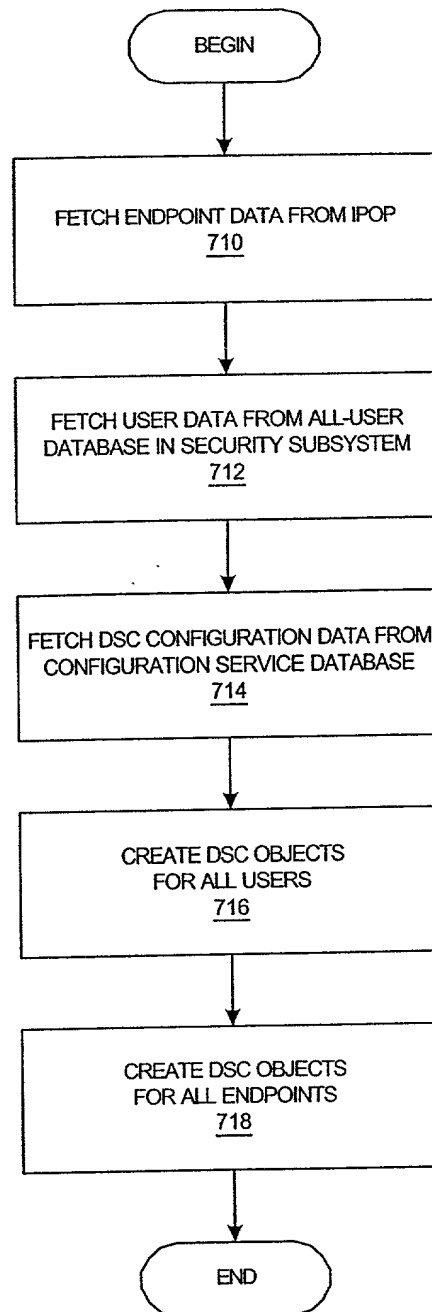


Figure 7B

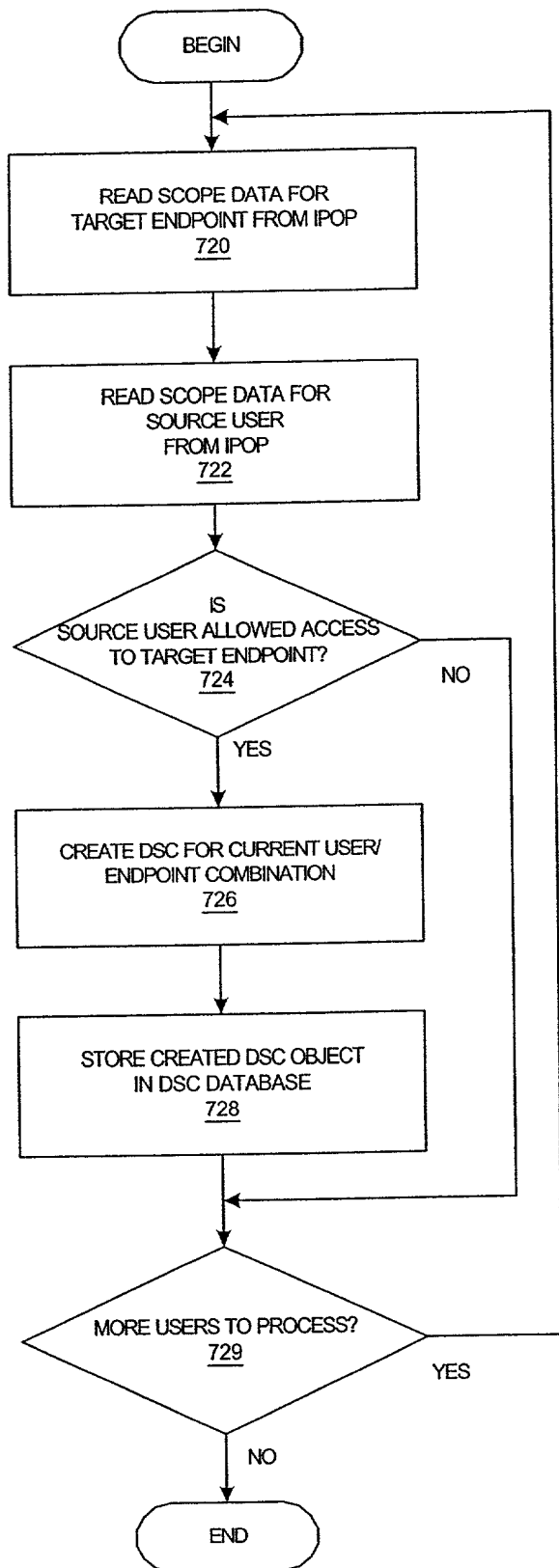


Figure 7C

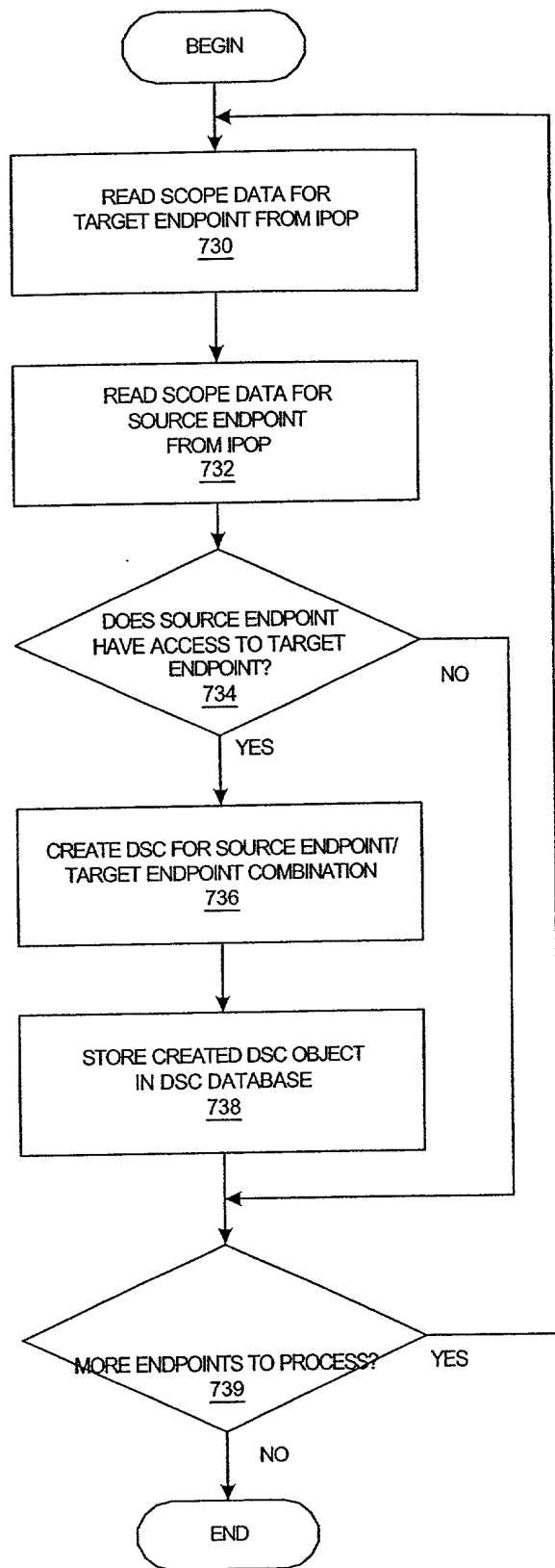


Figure 7D

Network Management Application

ADAPTIVE MONITORING SETTINGS

POLLING INTERVAL MINUTES

☒ SOURCE USER ▼

☐ SOURCE ENDPOINT ▼

PRIMARY DSC

☒ BY USER —

☐ BY ENDPOINT —

SET CLEAR

Figure 8A

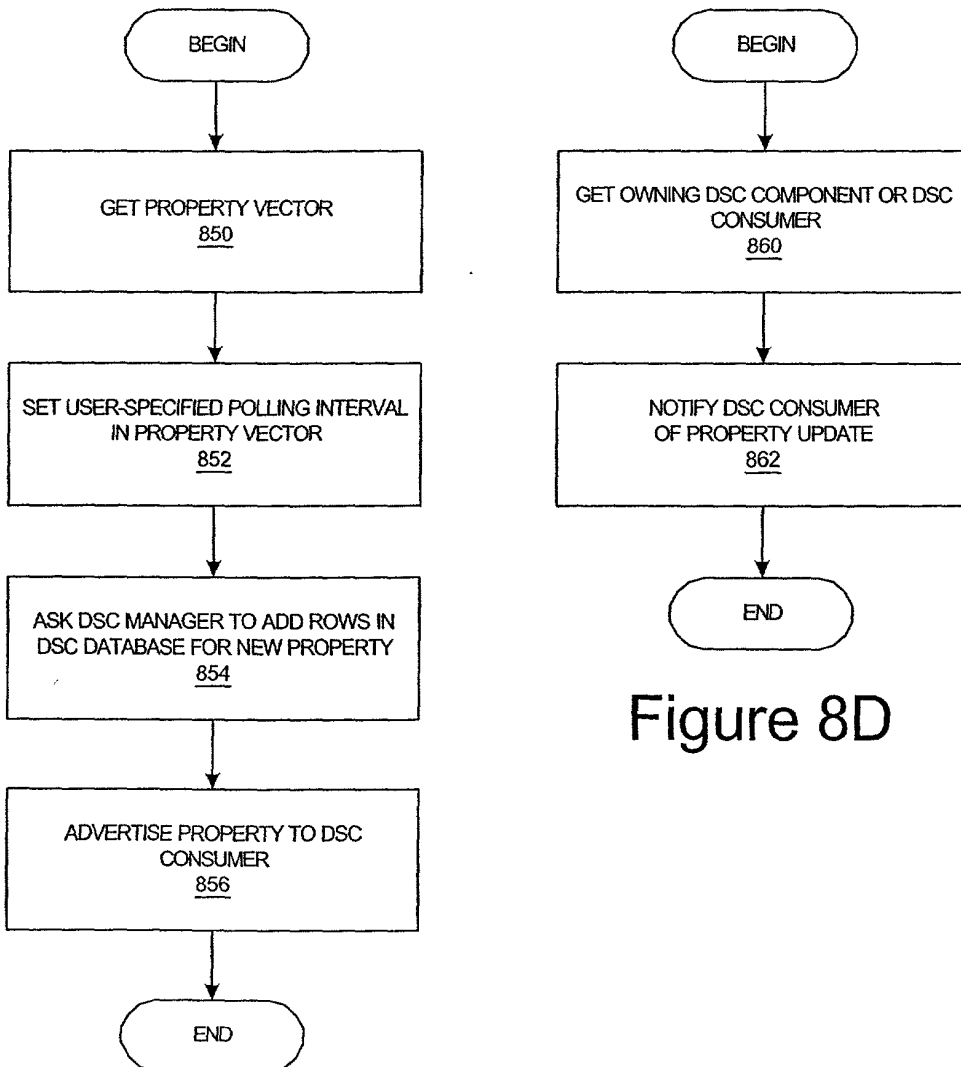


Figure 8D

Figure 8C

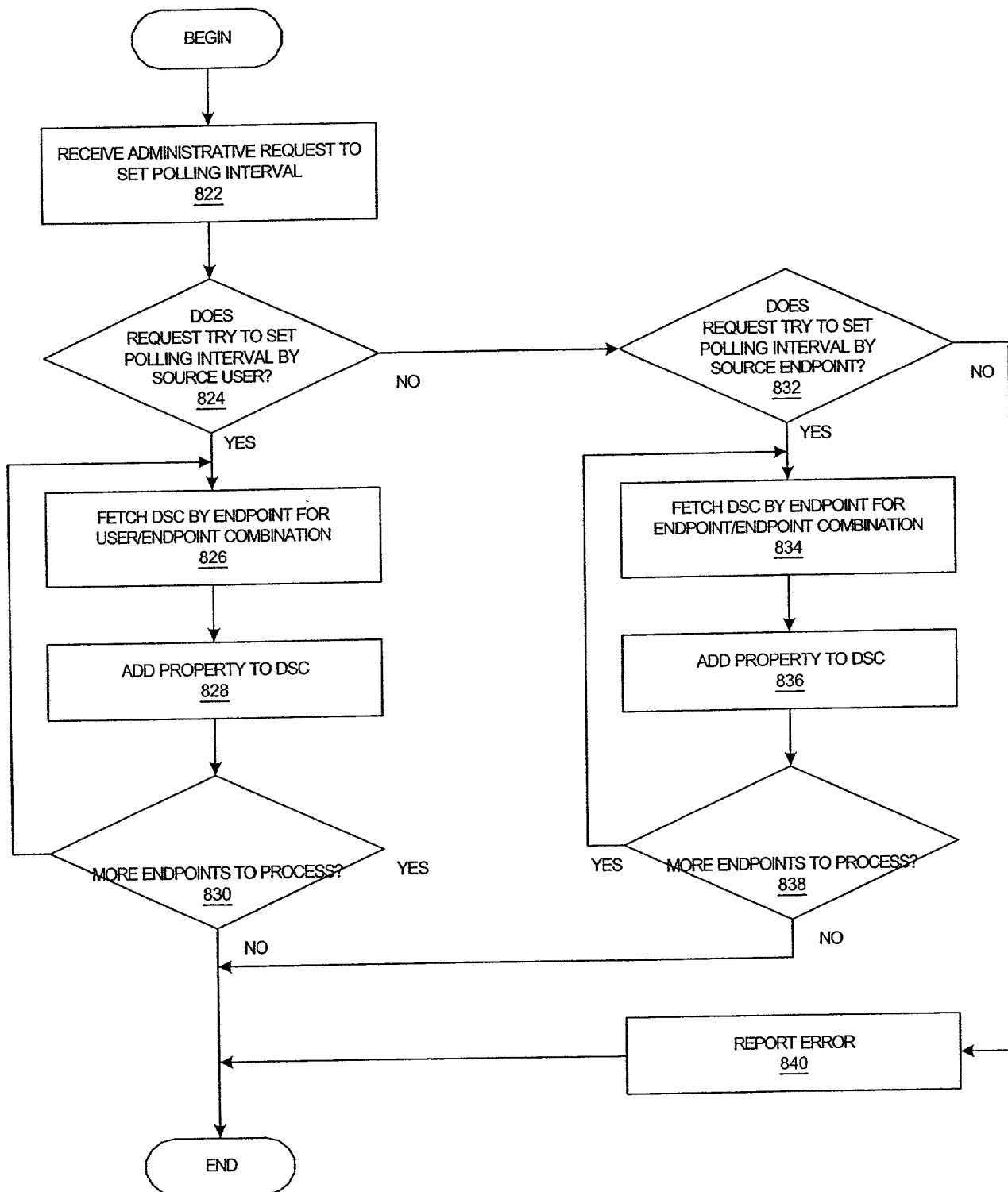


Figure 8B

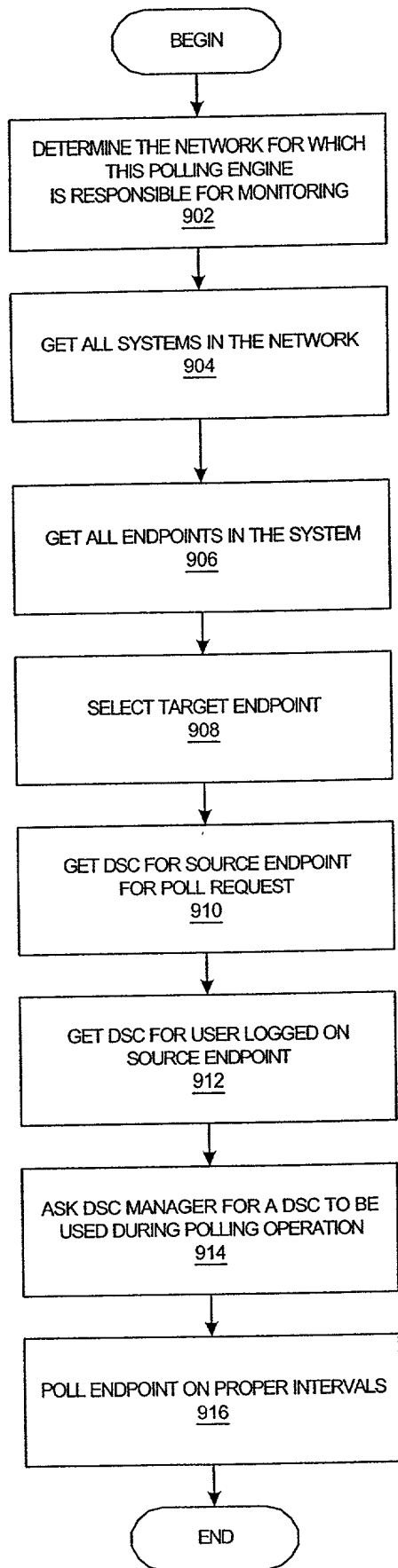


Figure 9A

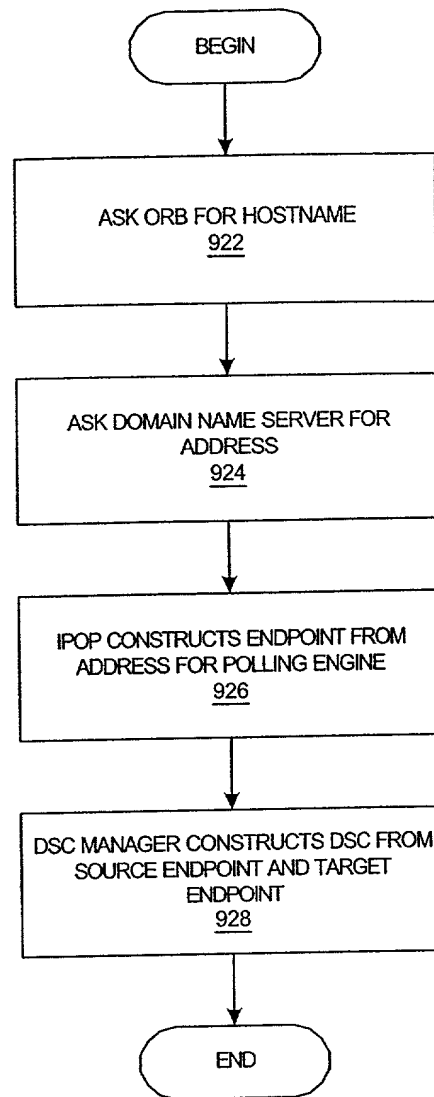


Figure 9B

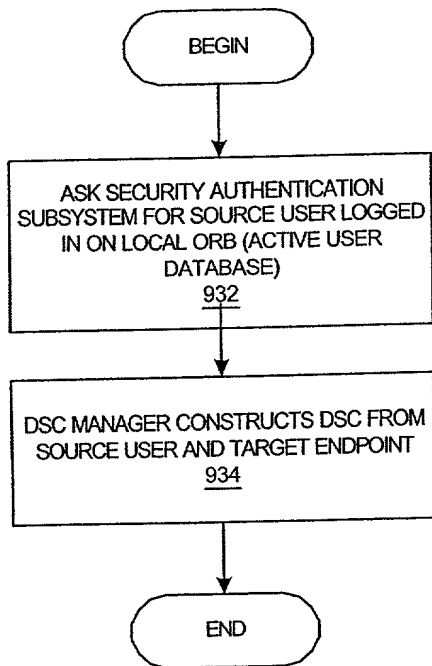


Figure 9C

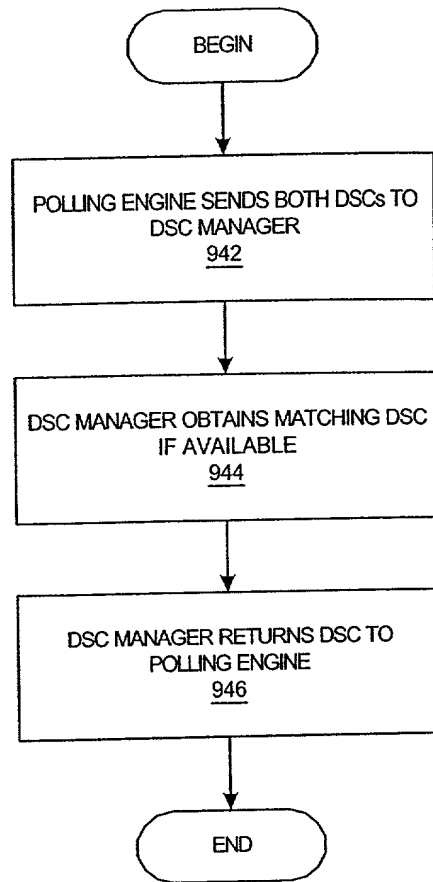


Figure 9D

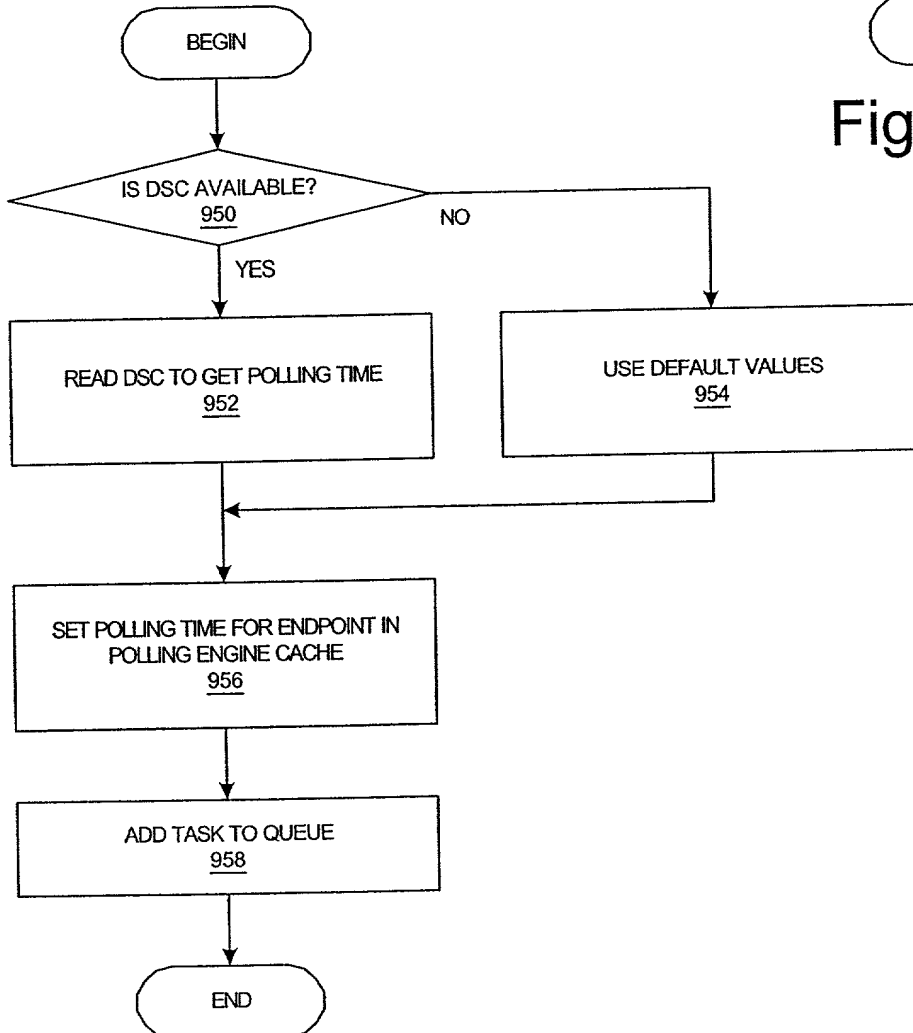


Figure 9E

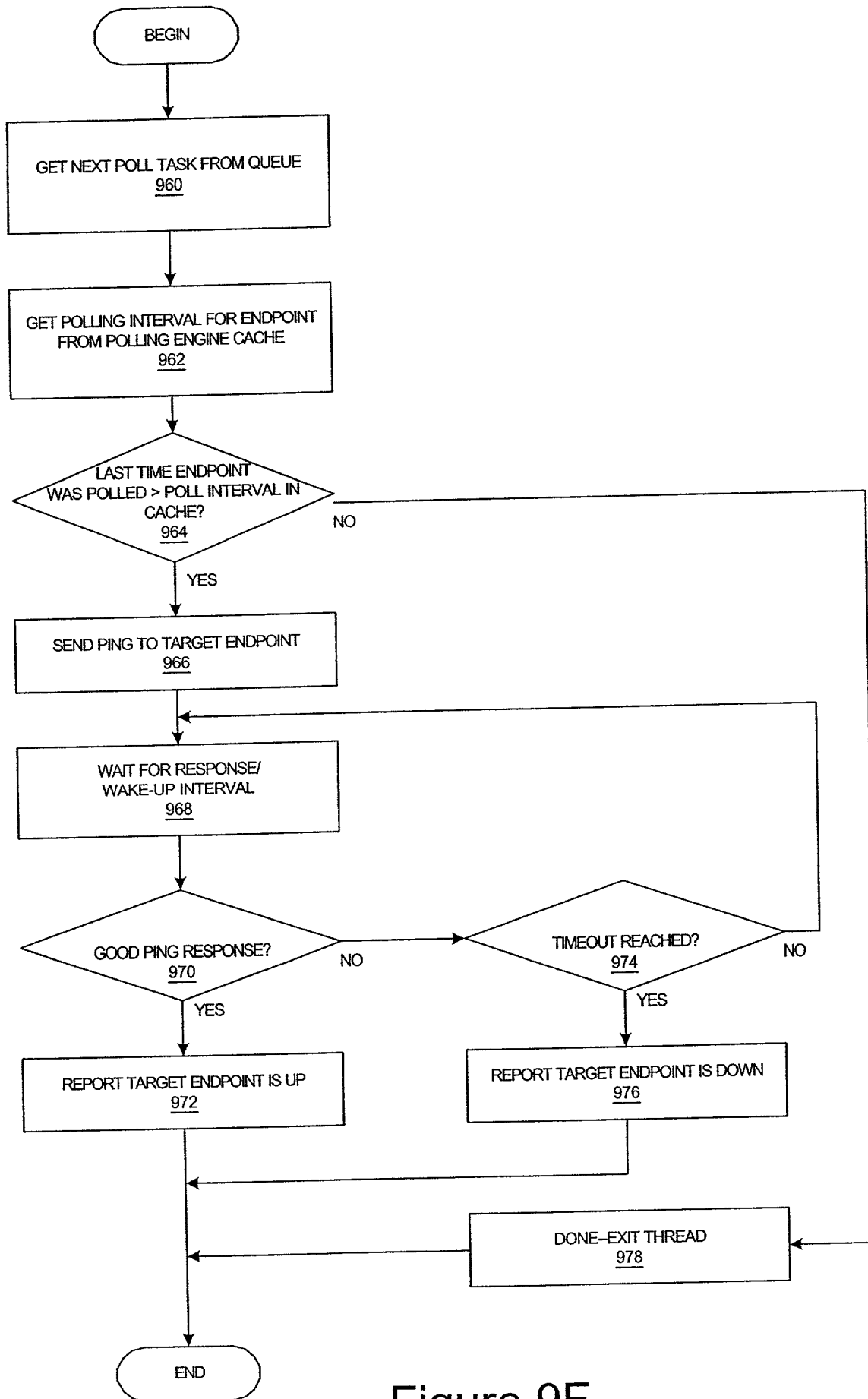


Figure 9F

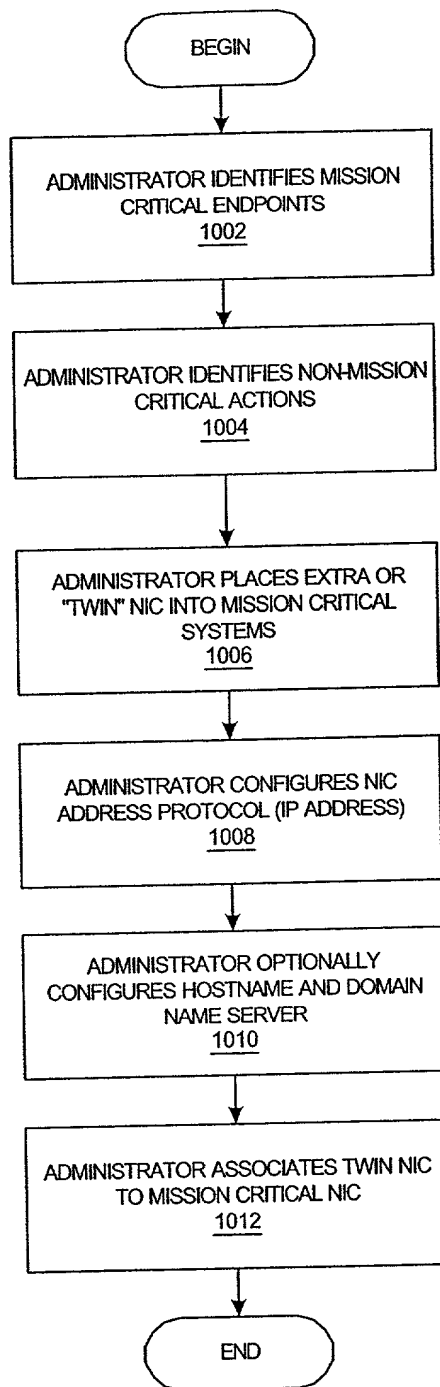


Figure 10A

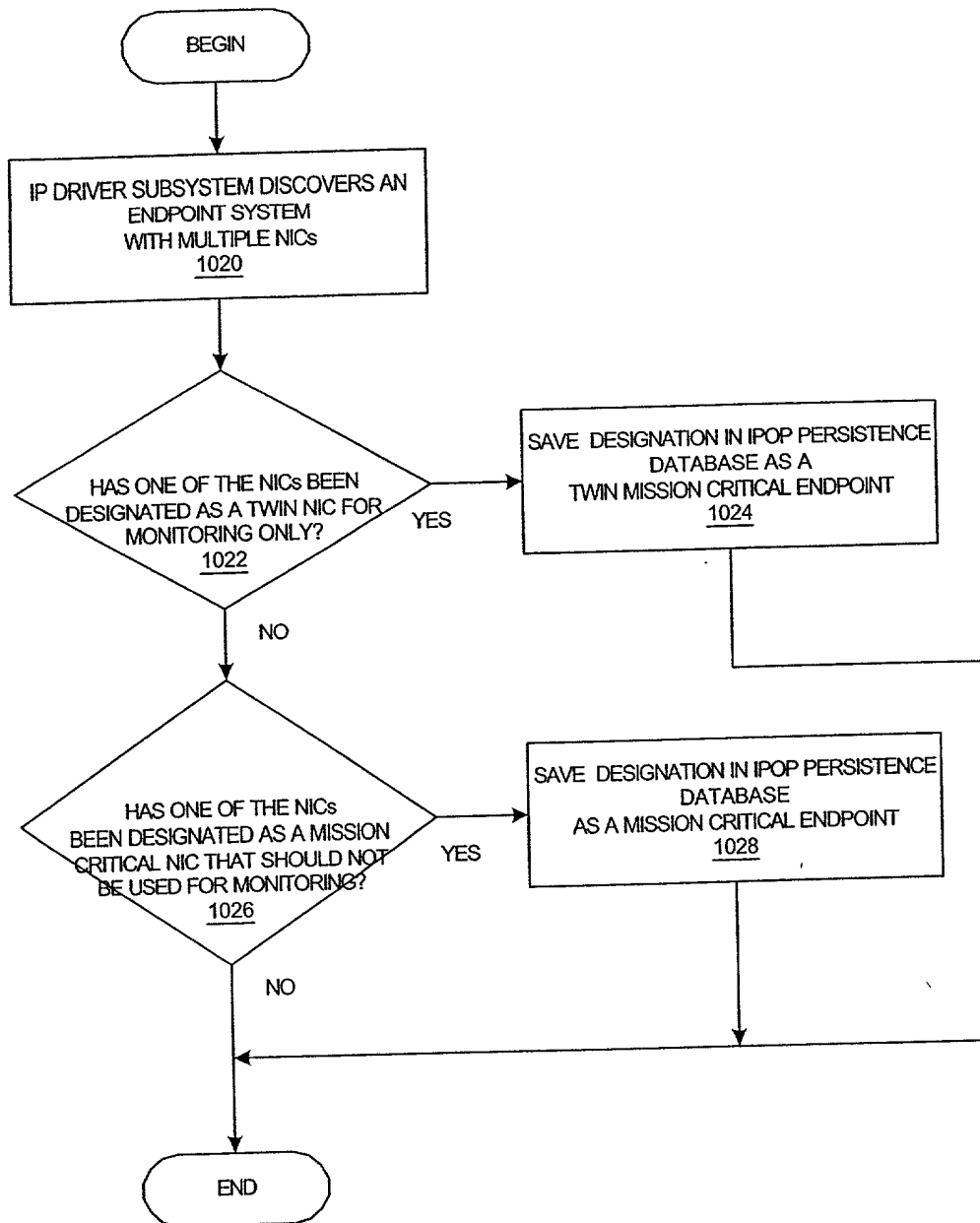


Figure 10B

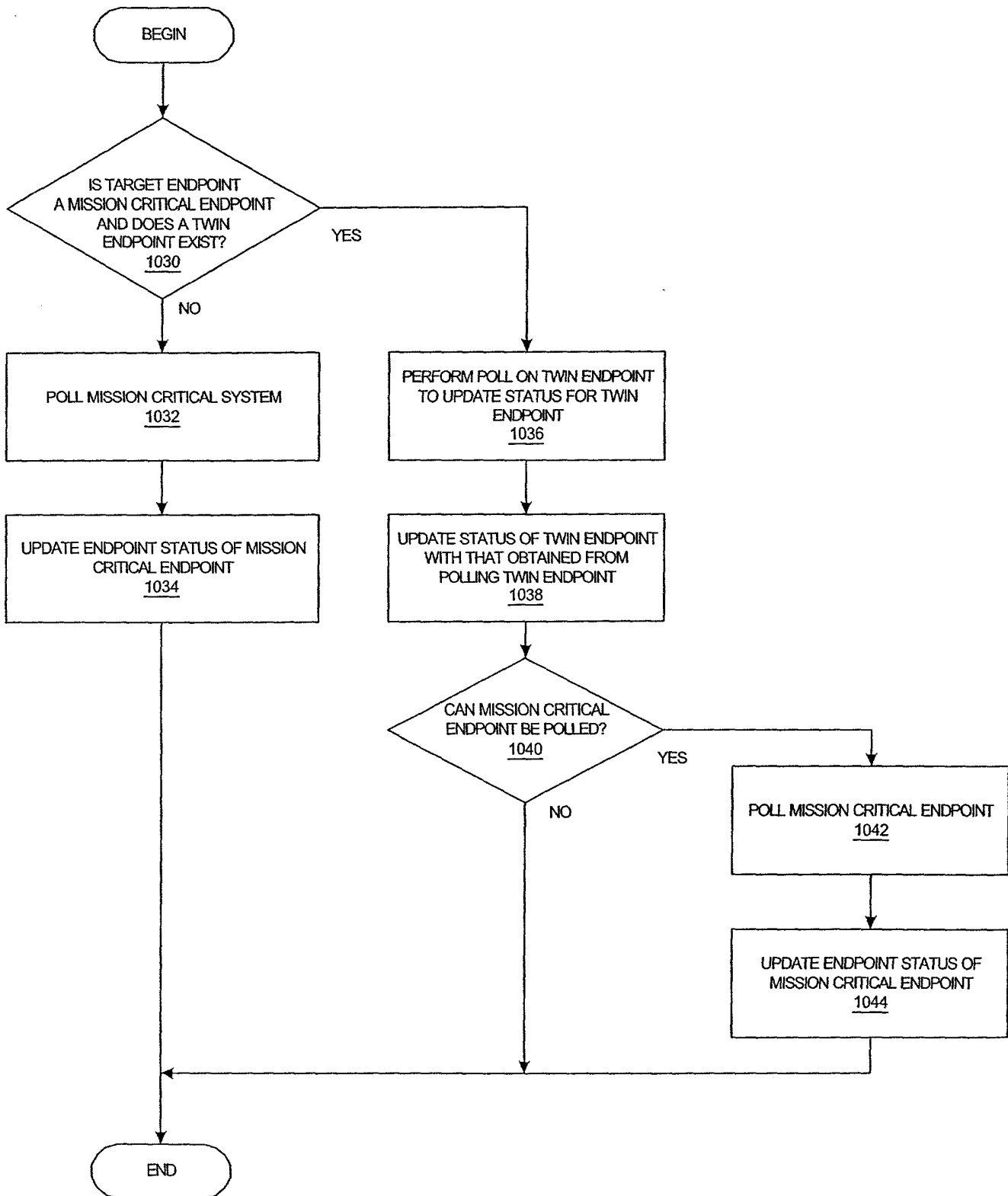


Figure 10C

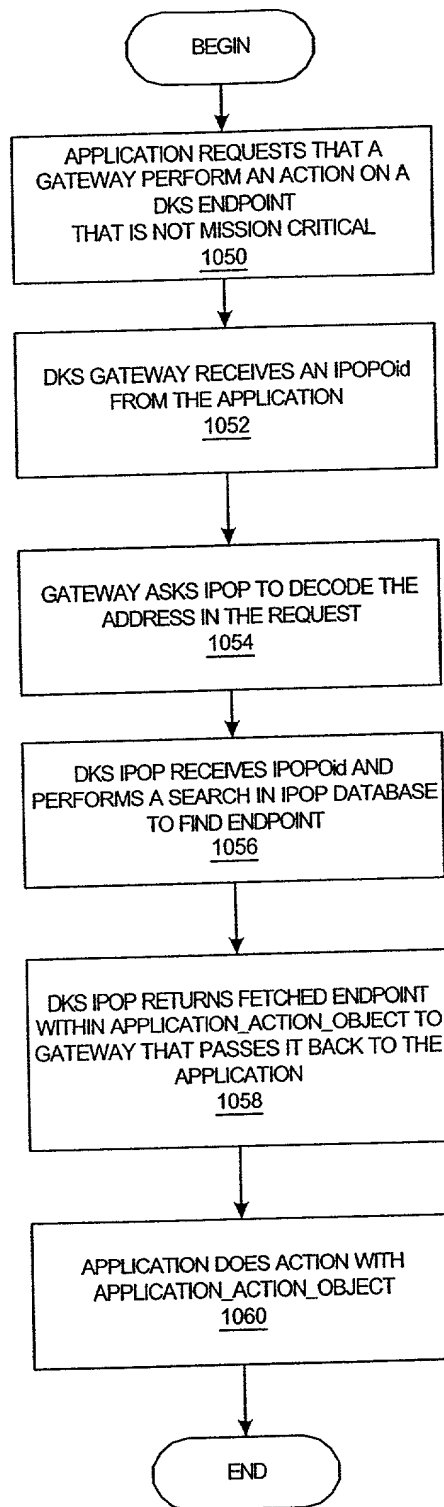


Figure 10D

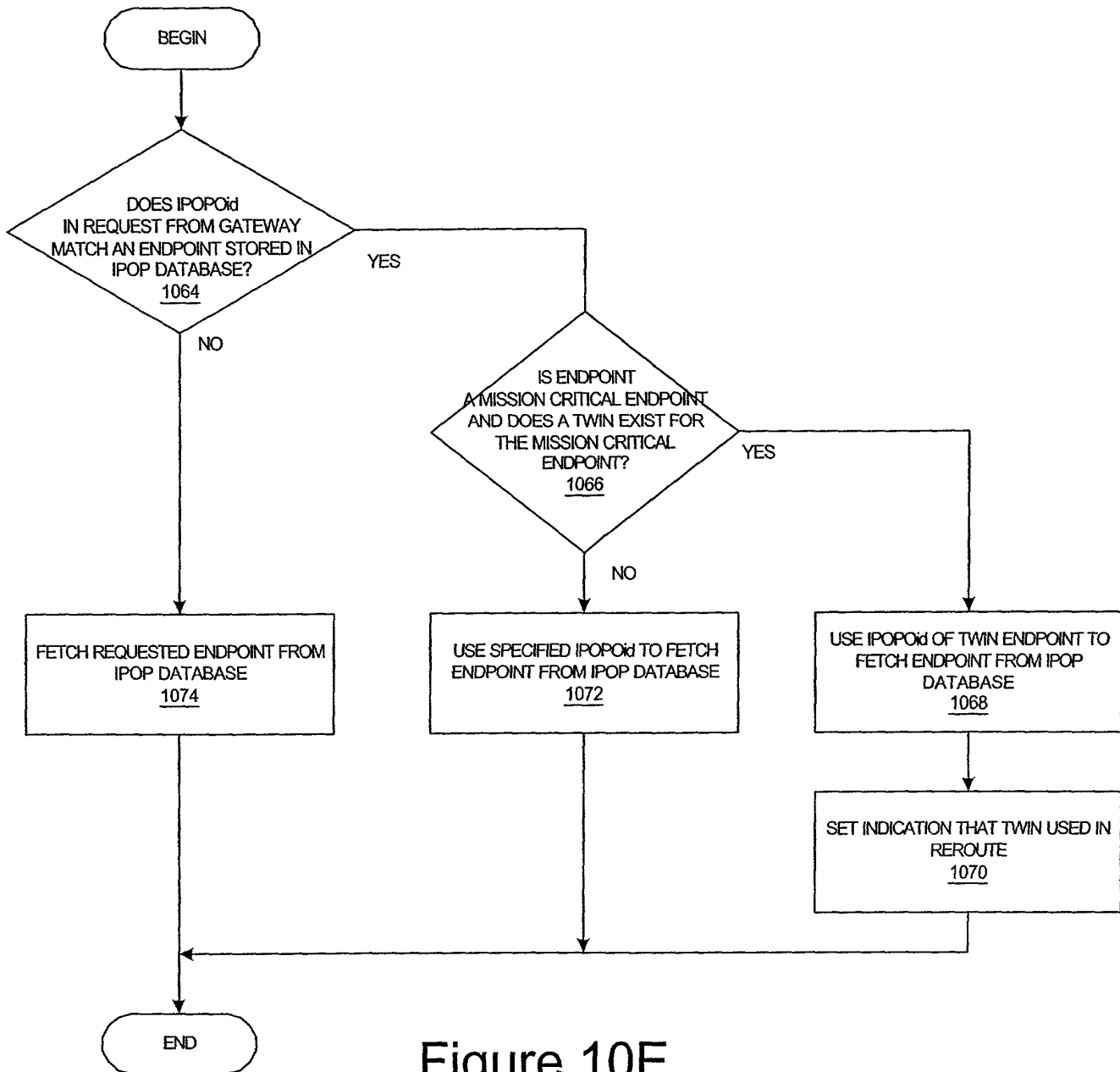


Figure 10E

1090

Network Management Application

MISSION CRITICAL TWIN ASSIGNMENT—MISSION CRITICAL ENDPOINT: 7.17.13.11

1091

ENDPOINT TO USE AS TWIN:

☐ MAC ADDRESS: 1093

☒ VPN NUMBER: 1094

1092

IP ADDRESS: 1095

1096 SET

1097 CLEAR

The screenshot shows a window titled 'Network Management Application'. Inside, there's a section for 'MISSION CRITICAL TWIN ASSIGNMENT—MISSION CRITICAL ENDPOINT: 7.17.13.11'. Below this, it asks 'ENDPOINT TO USE AS TWIN:'. There are two options: 'MAC ADDRESS' with an unchecked checkbox (labeled 1093) and 'VPN NUMBER' with a checked checkbox (labeled 1094). To the right of these are two buttons: 'SET' (labeled 1096) and 'CLEAR' (labeled 1097). An 'IP ADDRESS' field (labeled 1095) is also present. A small icon (labeled 1092) is at the bottom left of the form area. The window title bar includes standard OS icons (labeled 1091).

Figure 10F

```

CLASS ACTION_OBJECT {
    // CONSTRUCTOR
    ACTION_OBJECT( LONG IPADDRESS, SHORT VIRTUALPRIVATENETWORKADDRESS )
        THROWS BADADDRESS ...
    .
    .
    .
    VOID PERFORMACTION( ) // EXECUTES ACTION METHOD
    .
    .
    .
}

```

Figure 11A

```

CLASS APPLICATION_ACTION_OBJECT EXTENDS ACTION_OBJECT {
    boolean IsMissionCriticalAction; // TRUE = USED TO PERFORM ENTERPRISE-RELATED WORK
                                     // FALSE = USED TO PERFORM MONITORING OPERATIONS
                                     //      OR OTHER NON-REVENUE PRODUCING ACTION

    boolean TwinUsedinReroute // TRUE = IPOP HAS REPLACED REQUESTED ADDRESS WITH
                              //      AN ADDRESS THAT CAN BE USED FOR
                              //      NON-MISSION CRITICAL ACTION
    .
    .
    .
}

```

Figure 11B

```

Public Class Endpoint {

    //public variables
    long          EPObjectID;    //ID to object (both private and public network addresses)
    InetAddress    EPIPAddress;  //physical network address (private or public)
    long          EPVPN;        //virtual private network ID

    //get/set of variables
    public long    getObjectID( ) { ... }
    public InetAddress getPAddress( ) { ... }
    public long    getVPN( ) { ... }

}

```

Figure 11C

```

Class TwinMissionCriticalEndpoint extends Endpoint {
.
.
.
    IPOPOid    missionCriticalEndpoint; // Mission critical endpoint that is used to gather status
    IPOPOid    missionCriticalSystem;  // Mission critical system

    long       endpointStatus;
    long       twinEndpointStatus;

.
.
.
}

```

Figure 11D

```

Class MissionCriticalEndpoint extends Endpoint {
.
.
.
    boolean    useForMonitoring;    // TRUE = endpoint can be used for monitoring, polling,
                                   //      and other system-management-type resources

.
.
.
}

```

Figure 11E

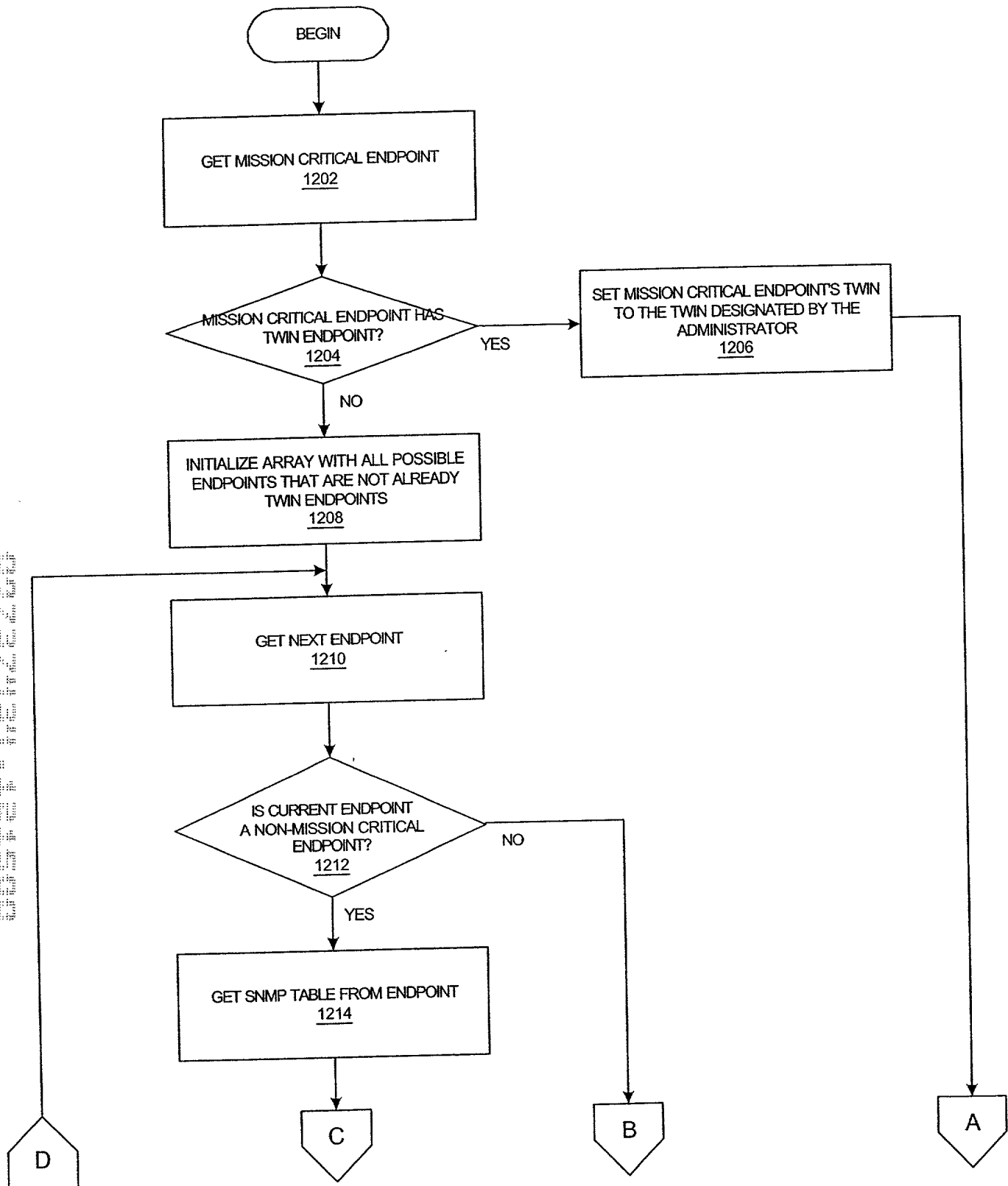


Figure 12A

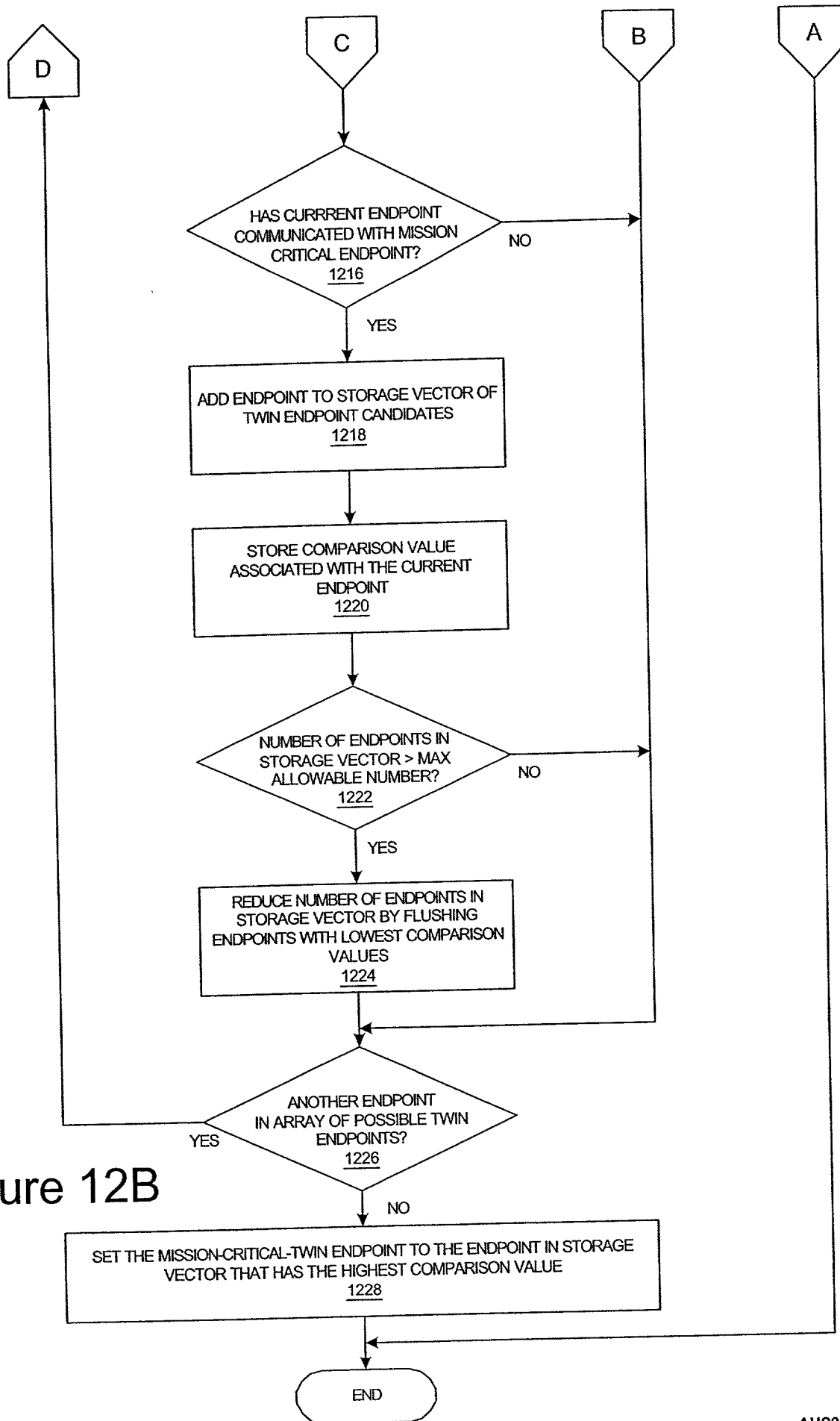


Figure 12B